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Counting the vote: an interactive study of electoral college reform

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COUNTING THE VOTE
An Interactive Study of Electoral College Reform

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With each presidential election comes talk of a fundamental and significant change to our democracy. Every four years brings about discussion between political pundits and casual conversation between office coworkers. All this talk is about reforming, or in some cases dismantling, the Electoral College.

Over the past several decades, numerous proposals to reform the Electoral College have been advanced. Adopting any one of these proposals would certainly have far-reaching effects on our future, but what about our past? What would have happened in 1960, for instance, if instead of the winner-take-all method of assigning electoral votes, a district method were in place? Would Kennedy still have won? Or how about in 2000, if a proportional method were used, could the mess in Florida have been prevented?

This thesis seeks to answer those questions. Divided into three main sections, this thesis explains what the Electoral College is and how it works, details several proposals to reform the system, and allows users to explore how a reform proposal could have changed the outcome of a past presidential election.

Available online at:
www.joehribar.com/countingthevote

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If one topic were able to spawn debate and divisiveness better than any other topic, that topic would likely be politics. From the political elites to the television commentators to ordinary citizens around the water cooler at work, politics never fails to generate opinions of issues and people alike.

The Electoral College has never escaped this purview. From the earliest of presidential elections to those of today, serious debate on the Electoral College has waxed and waned over time. Most recently in 2000, though, there was a serious chance that change might have occurred. Just like every other time throughout history, however, the fervor of Electoral College reform evaporated, leaving only whispers behind and no such reform undertaken.

The only successful major alteration to the Electoral College came after the election of 1800 in the form of the Twelfth Amendment to the U.S. Constitution. While there have been major shifts in how the Electoral College works on the state level, the Twelfth Amendment serves to some as an example of how the Electoral College, virtually unchanged since its inception, has stood watch over American presidential elections and also as a testament to the Founding Fathers. To others, though, the Electoral College represents an antiquated system with no place in modern American politics.

Why has the Electoral College escaped the calls of reform, particularly after close, divisive elections? One reason certainly is that any major alteration to the Electoral College would likely require a constitutional amendment, something historically extremely difficult to produce. Another reason might be that time heals wounds, and once sufficient time after a close election has passed, people stop caring.

Whatever the reason is for not amending how we elect our presidents, one aspect about the Electoral College is clear. Any change to the system, whether it is a simple change in how electoral votes are allocated or a major change like completely eliminating the Electoral College, would have far-reaching and significant effects on the future of our nation and our democracy. There is no doubt that changing how the president is elected would certainly change how

candidates run their campaigns, where they campaign, and how the media covers the campaigns and candidates. All of these facets of presidential politics are hard if not impossible to predict.

What, though, can reforms tell us about the past?

How might a specific reform proposal alter a past presidential election? If in 2000, for instance, the proportional allocation plan were in place instead of the winner-take-all system, could we have avoided the punch-card nightmare in Florida?

This thesis seeks to answer this type of question. By applying an Electoral College reform proposal to a past presidential election, we can illustrate pros and cons of each proposal and begin to understand how they would fundamentally change our system of democracy.

One important note to keep in mind, though, is that any altering of the Electoral College would certainly result in amended and possibly substantially different campaign strategies for candidates (as noted above), so what is illustrated in this thesis is only a glimpse of would could have happened, not necessarily what would have happened.

Still, though, it is incredibly interesting from both a political science perspective and a human curiosity perspective to see how past elections could have been different had the exact same election returns been simply counted another way.

The interactive portion of this thesis was developed using Adobe Flash 8.0 Professional, and the Flash projector and SWF files were published for Flash Player 8.

The Flash content makes extensive use of externally-loaded XML files that contain the major content driving the project.

AUDIENCE

Description

The primary target audience for this thesis is individuals or groups with an interest in politics, the Electoral College, and the American Presidency. It is not meant for this thesis to be an absolute teaching tool of the inner workings of the Electoral College and electing a president; rather, it is meant to introduce users to the system and the proposals for reform.

Breakdown

The target audience is as follows:

Age	Late teens and higher
Gender, ethnicity	All
Language	English
Education	High school and higher
Occupation	Students, educators, political scientists, others
Interests	Politics, the Electoral College, the American Presidency
Technical knowledge	How to operate a computer and mouse, how to navigate through standard websites and interactive Flash pieces
Technical requirements	Adobe Flash Player 8, internet browser

The interactive portion of this thesis is divided into three main sections: The Electoral College, The Proposals, and Scenarios.

THE ELECTORAL COLLEGE

In this section, users are given a brief historical background on the Electoral College and learn how the Electoral College works, both through text, audio, and brief animations. The section content is as follows:

Electoral College Introduction

The Electoral College was born from a compromise at the Constitutional Convention during the summer of 1787. Some delegates wanted the president to be elected by a direct popular vote; others wanted Congress to select the president; still others wanted state legislatures to choose the president. The Electoral College, therefore, more or less combined aspects of several plans to satisfy most everyone at the convention.

Prior to deciding how to elect the president, though, the delegates were deadlocked for a portion of the convention over the makeup of Congress—whether it should be proportional or equal representation. This deadlock even threatened to break-up the convention.

When a compromise was finally reached, giving us the current makeup of Congress with one body of proportional representation and the other body of equal representation, no one at the convention wanted to repeat the deadlock and bitter divisiveness, so little time, in comparison, was spent on deciding how to choose the president. While the Electoral College may have been a compromise solution, it was also a solution done in haste and without much serious debate.

How the Electoral College Works

Each state has a certain number of electoral votes, based on the number of representatives and senators the state has. Every ten years, a national census is conducted, and based on the population of the state, the number of congressional representatives is determined. In addition to the representatives,

THE ELECTORAL COLLEGE *(continued)*

each state has two senators.

Ohio, let's say, is divided into 18 congressional districts. This means that Ohio has a total of 20 electoral votes—18 for each congressional representative and 2 for each senator.

Except for Maine and Nebraska, each state and the District of Columbia award all electoral votes of the state to the candidate who receives a plurality of the popular vote of the state. In every other state and D.C., a candidate can win the state popular vote by 1 vote or 1 million votes—he still gets all of the electoral votes of the state. Maine and Nebraska both employ the district allocation method (see the proposals section).

Currently there are 538 total electoral votes nationally, accounting for 435 congressional representatives, 100 senators, and 3 electoral votes for D.C. In order to win the presidency, a candidate must obtain a 50%-plus-one majority vote, or 270 electoral votes.

If after all the votes have been counted and no candidate obtains a majority of electoral votes, the election is then decided by Congress, with the House of Representatives deciding who will become the president and the Senate deciding who will become the vice president. In the House, each state delegation receives one vote; in the Senate, each senator votes individually.

THE REFORM PROPOSALS

This section highlights how each reform proposal works (through text, audio, and brief animations) and cites pros and cons of each proposal. The section content is as follows:

District Allocation Plan

The district allocation plan divides state electoral votes based on winners of the congressional districts and popular vote of each state.

Let's say Ohio has 18 congressional districts. Candidate A wins the popular vote

THE REFORM PROPOSALS *(continued)*

in 12 congressional districts, and Candidate B wins the remaining 6. This means that Candidate A has won 12 of Ohio's 20 electoral votes, and Candidate B has won 6.

The final 2 electoral votes of the state are awarded to whichever candidate wins the popular vote of the state. In our mock election, Candidate A wins 2.5 million votes whereas Candidate B wins 2.1 million votes. Candidate A has won the state popular vote and is thus awarded the two remaining electoral votes.

The final tally in Ohio is 14 for Candidate A and 6 for Candidate B.

Proportional Allocation Plan

The proportional allocation plan divides state electoral votes based on percentages won of the popular vote of each state.

There are numerous ways in which to proportionally divide the electoral votes of a state. In one method, each candidate starts with receiving a whole number of electoral votes based on his rounded-down percent of the state popular vote. Any remaining electoral votes in each state are then assigned to whichever candidate has the greatest remainder left after assigning the initial round of electoral votes.

For example, let's give Ohio 20 electoral votes. Let's say Candidate A wins 54% of the popular vote, Candidate B wins 41%, and Candidate C wins 5%. The initial round of assigning electoral votes nets Candidate A 10 electoral votes, with a remainder of 0.8; Candidate B 8 electoral votes, remainder 0.2; and Candidate C 1 electoral vote, remainder 0. So far, then, only 19 of 20 electoral votes of Ohio have been assigned. The final electoral vote is awarded to the candidate with the greatest remainder, in this case candidate A.

The final tally in Ohio is 11 for Candidate A, 8 for Candidate B, and 1 for Candidate C.

THE REFORM PROPOSALS *(continued)*

Drop-Two

The drop-two plan divides state electoral votes in the same manner as the current system—winner-take-all. The only difference, though, is that each state has two-fewer electoral votes.

The idea behind this proposal is to give smaller-population states less of an advantage in the Electoral College as they have in the current system.

So if Candidate A wins the popular vote in Ohio, for instance, he would only win 18 electoral votes instead of 20. In Vermont, he would only win 1 electoral vote instead of 3.

Nationwide, then, there would only be a total of 436 electoral votes, so a majority (of 50% plus one) would be 219.

National Bonus Plan

The National Bonus Plan divides state electoral votes in the same manner as the current system—winner-take-all. The only difference, though, is that the winner of the national popular vote is automatically awarded with 2 extra electoral votes for each state plus D.C.

The idea behind this proposal is to ensure the winner of the national popular vote is also always the winner of the Electoral College. Like the winner-take-all method of the states, though, the winning candidate can win by 1 vote or 1 million votes in order to secure the extra electoral votes.

For example, let's say Candidate A has won 280 electoral votes and 52 million popular votes nationwide, whereas Candidate B has won 258 electoral votes and 50 million popular votes nationwide. Candidate A has won the national popular vote and is thus awarded 102 extra electoral votes (2 for each of the 50 states and D.C.).

The final tally nationwide is 382 for Candidate A and 258 for Candidate B. With 640 total electoral votes in-play nationwide, a majority (50% plus one)

THE REFORM PROPOSALS *(continued)*

would be 321.

Direct Popular Vote

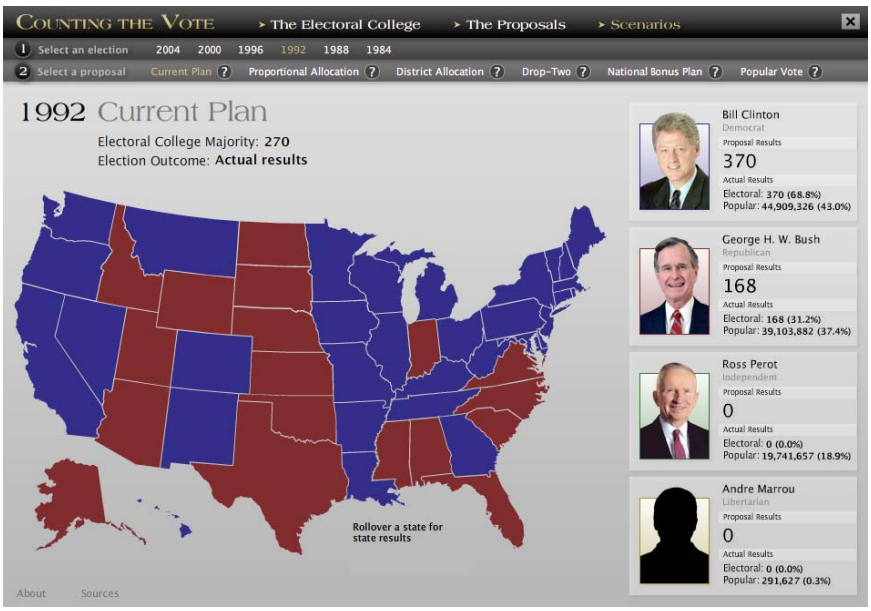
While other proposals simply amend the Electoral College, the popular vote plan completely eliminates the Electoral College. Candidates no longer compete in state contests—they compete in a national popularity contest.

Whichever candidate wins a plurality of the national popular vote wins the presidency. There are no electoral votes to win, no electoral vote majority to obtain.

SCENARIOS

In the final section, users can interact with the reform proposals to create exciting and sometimes unpredicted scenarios. Users can select a past presidential election and then a reform proposal to see if or how that particular proposal could have changed the outcome of the selected election.

The main visual components of the scenarios section are a map of the United States and four candidate result boxes to the right of the map:



SCENARIOS *(continued)*

Upon first entry into the scenarios section, users must select a year to begin. When a selection is made, the map and candidate result boxes animate to show the actual results of the selected election. From this point, users may select either a reform proposal to display different results or another year to view a different election.

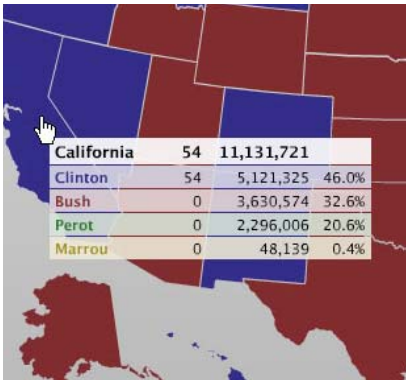
Originally, this section was designed in a manner that when users selected a new year, the map and candidate boxes automatically displayed the actual results of the particular election. This was rethought for usability reasons. If, for instance, users were interested in comparing one particular proposal through several elections, this process would be tedious in the former setup. Once users selected a year and a proposal to see the results and then wanted to view the same proposal but for a different year, users would have to choose a year, wait for the map and boxes to display the actual results, then click on the reform proposal they previously chose to finally see the results of the new election. In the current design, the project does what users would expect.

Once users select a year and a proposal, they may then select a new year to view election results for that year with the same reform proposal applied to it. This switch in functionality proved to be a good thing when actual users interacted with the scenarios section (see "Testing" below).

The driving content in this section is the visual and textual display of numbers. For each election, both nationwide results and state breakdowns of results are shown. The nationwide totals, both electoral votes and popular votes, are displayed for each election and proposal in the candidate result boxes, ranked, from top-to-bottom, highest-to-lowest number of votes (electoral or popular, depending on the proposal). When users mouse-over a state, election results for the state are displayed, with these results also ranked highest-to-lowest.

SCENARIOS
(continued)

National results



State results

As supplemental information, each election/proposal combination notes what number would give a candidate an Electoral College majority and notes the outcome of the combination in comparison to the actual results of the election (i.e. if the election results were overturned).

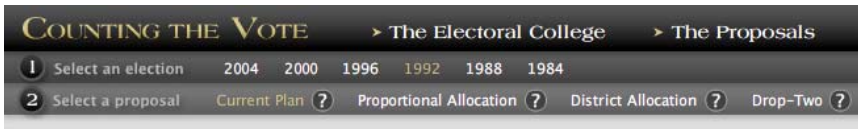
Supplemental election information

Given the subject matter of this thesis and that the project is largely data-driven, the visual design is simple and conservative.

COLOR In the scenarios section in particular, color plays a strategic role on the results map. For the current electoral plan and proposals that do not divide electoral votes of a state, each state is colored according to the color representing the party of the winning candidate in the state. For instance, if a Republican candidate wins Ohio, Ohio turns red. Because of the importance of color to displaying election results, a grayscale color scheme was employed for the interface of the project.

The aim of this grayscale color scheme was to avoid any interference or competition between the interface and the colorized election results. Having too much color in the scenarios section may have resulted in some ambiguity. In addition, grayscale was chosen so as to not suggest any bias toward one particular party. If there were an overabundance of a color representing one political party, users may have mistaken the overabundance as a nod to partisanship.

With that all in mind, though, there is one actual color in the interface, that of a link highlight color. Links, upon mouse-over and click, turn a golden-yellow color. This decision was made strictly for highlight purposes. Instead of using a gray tone, this yellow was chosen to be complementary to the grayscale navigation system, allowing the links to be professional yet also stand out.



The golden-yellow highlight color in the navigation system

TYPE Two typefaces are used in this project: Americana and Lucida Grande. Both fonts offer a sense of professionalism and conservatism to match the overall feeling of the visual design.

Americana is used as the headline font. Main section links and any other header-esque labels are rendered in this font. In addition to its look, this font was chosen for its fitting name. For body text and non-main-section links, Lucida Grande is used.

SCENARIOS One specific visual design improvement was made in the scenarios section: the map animation. Originally each state faded onto the map in alphabetical order, and then the candidate boxes animated to reveal their new content. To improve eye direction and overall flow, the map was changed to animate fading from the west coast to the east coast. This new method of animation offers a greater sense of focus on the result boxes as the map colorizes from left to right ending where the boxes visually begin.

Because of the intense data-driven nature of this project, special care was given to how data is both structured externally to be loaded into Flash as well as how data is processed and displayed once inside Flash.

XML For the shell interface and the scenarios, most elements that could be changed or added-to in the future have been placed in external XML files. Shell elements in XML are the main section labels and the different reform proposals, all containing a one-word id for Flash to reference and a full-length string to use as a button label. Scenario elements include all election data for national and state results, political party labels and colors, and the order the states animate on the map.

Each election is a node in XML and contains election results and the candidate who ran in the election. Results are separated into state nodes, with each state node storing each candidate's state popular vote total and congressional district total. The only two national result numbers are the total number of popular votes cast nationally and the number of electoral votes nationally. All other national result numbers that are displayed in the scenarios section are calculated by Flash.

Candidate nodes for each election contain the one-word id of the candidate's party and the candidate's name.

Political Parties

Every political party with a candidate in any one of the included elections in the scenarios section is listed in XML. The XML data includes a one-word id, a label, and a color.

The one-word id is used to associate a candidate with the party. In the election XML, each candidate is referenced by the same one-word id. The label is used as a full-length string of the party name, and the color is used to colorize certain elements in the scenarios interface.

XML *(continued)*

When the election results are displayed for an election, Flash checks which party each candidate belongs to and shows in the candidate box the party label. According to the color specified as representing the candidate's party, Flash colors the background behind the candidate photos, any states won by the candidate, and the state mouse-over info box.

State Order

The order the states animate on the results map was placed in XML for two reasons. First, the order, as discussed earlier, was changed once before, so perhaps it could change once more in the future. Second, and more important, the state nodes in XML contain labels for the states. While the XML tag is the state postal abbreviation (i.e. "ny"), the label stores the full name of the state (i.e. "New York"). These labels are used in the state mouse-over box to indicate which state users mouse-over.

Please see the appendix to view a sample of the shell and scenarios XML.

REUSABLE CODE

Specifically in the scenarios section, much of the functionality is achieved through reusable code in Flash. Several elements of this section employ functions that are used repeatedly.

For example, each reform proposal has its own function to calculate new election results. When the XML election data is loaded by Flash, the data is stored in objects and arrays. When users select an election and a reform proposal, the corresponding function is called to compute the new election results. Each function calculates results in a different manner.

REUSABLE CODE *(continued)*

Below is an example of a proposal function, the popular vote proposal:

```
computePopular = function(theYear:Number):Void{
   //reset results array
   arrayResults = new Array();

   //reference selected election's data object
   var theElection:Object = new Object(thisRoot["election"
   ↳+theYear]);

   //loop through each state in the election
   for(var i:Number=0;i<theElection.arrayStates.length;i++){
      //array to temporarily store state's results
      var popArray:Array = new Array();

      //loop through each candidate, storing candidates' results
      for(var j:Number=0; j<theElection.arrayCandidates.length;
      ↳j++){
         popArray[j] = theElection.arrayStates[i][3+ j][0];
      }

      //reference the state movieclip
      var theState:MovieClip = usa["state" +
      ↳theElection.arrayStates[i][0]];

      //set the state's color based on split vote array
      setStateColor(theState, true, null,
      ↳theElection.arrayCandidates, popArray);

      //store the state's results
      storeStateResults(theElection, theState, i);

      //sort the state's results
      sortStateResults(theState, 3, 2);

      //set the state's electoral vote count to 0
      theState.arrayResults[0][0] = 0;
   }

   //loop through each candidate,
   //storing candidate national results
   for(var i:Number=0;i<theElection.arrayCandidates.length;i++){
      arrayResults.push( new Array(
         theElection.arrayCandidates[i][0],
         theElection.arrayCandidates[i][1],
         theElection.arrayCandidates[i][2],
         theElection.arrayCandidates[i][4],
         theElection.arrayCandidates[i][3],
         theElection.arrayCandidates[i][4],
         computePopPercent(theElection.arrayCandidates[i][4],
         ↳theElection.popVote)
      ) );
   }

   //sort national results
   sortResults();
}
```

In this function, each state is looped through, and for each state, the state is colorized based on a split vote amongst candidates, and the results of the state

REUSABLE CODE *(continued)*

are stored and sorted for use in the state mouse-over box. Then, the candidate results of the election are stored and sorted for use in the candidate boxes. The other reform proposals undergo a similar process with each doing different calculations but also calling similar functions. Reusable functions calling reusable functions!

Other functions include the following: a function to set each state a color on the results map, a function that fades states in and out, a function that animates and displays information in the candidate boxes, a function that sorts national results, and a function that sorts state results.

CANDIDATE IMAGES

Originally, candidate headshot images in each candidate result box were loaded into Flash via the loadMovie function. Candidate nodes in the election XML might have contained an image attribute specifying the headshot image of the candidate. If this attribute were present, Flash would load this image. If the attribute were not present, Flash would automatically look for an image based on the year and the candidate's last name (for instance if the year were 1996 and the candidate's last name were Hribar, Flash would look for an image named "1996-hribar.png").

The purpose of the image attribute method was to avoid having to enter a candidate image into XML for each candidate. To save time and to be more savvy, Flash would know how to look for the necessary file. If, though, a more obscure candidate, for instance, did not have a headshot, then a generic "no photo" image could be loaded instead by placing the image attribute and "nophoto.png" value into the candidate XML.

While there was no major problem with this method, there were two minor annoyances. First, each time the candidate boxes flipped around to reveal new election results, Flash made a call to load the candidate image. Between Flash calling for the image and the actual loading and displaying of the image, where the image is displayed there was a slight blink as the candidate box flipped around. When the project was run locally off a computer, the blink was not too

CANDIDATE IMAGES *(continued)*

terribly noticeable, but when run off a web server and the image files had to be downloaded, the blink was much more noticeable. There was not a fluid transition from one set of results to the next in each candidate box as the box did its flip.

Second, in the course of viewing an election, if the user were to view the normal results of the election as well as results for five reform proposals, each of the four candidate images for the selected election would have been loaded six times each for a total of twenty-four image loads. Certainly not a life-and-death concern, but completely unnecessary nonetheless.

To remedy both of these issues, a new loading method was devised. Instead of the image attribute in the XML coupled with the Flash loadMovie function, a scheme employing the Flash BitmapData class is used to load candidate images. When the scenarios section is loaded, each candidate image is loaded into a temporary movie clip. Flash automatically calls for an image based on the election year and the candidate's last name (as before). If this image is not found, Flash automatically loads the generic "no photo" image. Once the candidate image is loaded into Flash, the temporary movie clip holding the image is written to a BitmapData object, and the clip is destroyed. When the candidate boxes animate to reveal new results, instead of calling loadMovie to load an image into the image holder in each candidate box, Flash calls attachBitmap to attach the stored BitmapData object to the movie clip.

With this new method, there is no blink when the image loads (either locally or on a server), and each image is only loaded into Flash once, which if the project were on a web server and the image files were larger in file size would save bandwidth).

ADDING NEW PROPOSALS

Because of the compartmentalized, reusable nature of the code in the scenarios section, adding new proposals is an easy task.

The main component in adding a proposal is writing the function in Flash that

ADDING NEW PROPOSALS *(continued)*

computes the new election results. Writing the function can be as simple as altering an existing proposal to create a variation or writing a new method altogether.

Once the computation function is written, the functions that handle button clicks have to be updated so Flash knows which proposal function to call when either the proposal button or year button are clicked by users.

The final update is to the shell XML file. To the list of proposals, the new proposal must be added, specifying a one-word id that Flash uses to know which proposal was clicked and a full-length proposal name for the button label.

ADDING NEW POLITICAL PARTIES

If an election were added to the project that contained a candidate belonging to a party that no other election had, a new party would have to be added. Adding a new political party requires no changes in Flash, only changes in the scenarios XML file.

To add a new party, the list of parties in XML simply needs to include a new node containing a one-word reference id, a full-length label string, and a color to represent the party. The candidate node in the election XML needs only to reference the one-word party id to associate the candidate with the party.

ADDING NEW ELECTIONS

Adding a new election is only a matter of adding new XML data. Necessary information to add are the candidates and which party they belong to, the state-by-state election returns, and the popular and electoral vote counts for each state and nationwide. Please see the appendix for a detailed process of data entry used for this project.

Central to any technology having user interaction is a healthy dose of user testing. For this project, several typical users were asked to interact with the scenarios section.

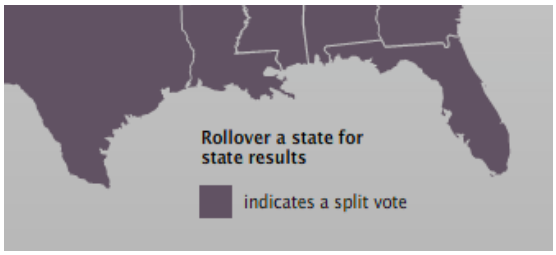
Going into the testing, the project had no indication of the state mouse-overs, meaning nowhere in the project were there any instructions telling users of the ability to see state-by-state election results. Users at first simply interacted with the different election years and proposals and did not move the mouse cursor too far from the top navigation bar. Eventually, though, each user either became curious and started to explore or just decided to naturally move the mouse around and then discovered that more information was available upon mouse-over of a state. Once users found this information, they spent time in each proposal sifting through the state results. To help inform users of how to interact with the scenarios section, instructions have now been added.

State mouse-over instructions

As mentioned earlier, the interactivity of the scenarios section was retooled to allow users to view results for a particular reform proposal across several years. This reengineering proved useful during user testing. Several users, especially those with a political science inclination, chose a reform proposal and then compared the new election results generated for each year available.

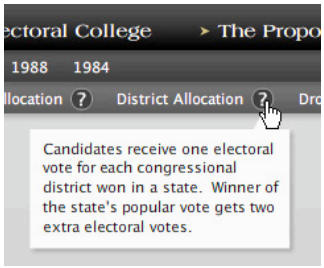
Overall, each user gave very positive feedback. Each was especially impressed at the amount of data that went into the project. A useful suggestion received by one user regarded the map legend in the scenarios section indicating the state split vote color. Originally the legend was visible for every proposal, even if the proposal never split state votes. The user correctly suggested that the legend should only be visible for proposals that have the chance of splitting state votes.

In the other situations, the user noted that having the legend visible caused confusion and ambiguity because it suggested somewhere on the map a state split its vote. The legend is now only visible for proposals that have a chance of splitting state votes.



Map legend

Another useful suggestion was to include a brief summary of each proposal in the scenarios section. Originally, if users did not remember how a particular proposal worked, they had to leave the scenarios section and return to the proposals section to review the proposal. To better aid the user, a mouse-over-activated button appears next to each proposal name in the navigation system. When moused-over, an information pop-up appears to briefly describe each proposal.



Proposal information pop-up

Given the highly debatable nature of Electoral College reform, sources arguing for and against reform in general or specific proposals were not hard to find.

Locating election results were both easy and difficult. Congressional Quarterly publishes *Guide to U.S. Elections*. This monstrous volume presents popular results for each presidential election from 2004 back to 1824, when popular returns were first widely recorded. Uncovering presidential election results by congressional districts proved more problematic. Since there is not a single source detailing these statistics, several sources had to be strung together to include the data in this thesis.

BOOKS

Choosing a President
Edited by Paul D. Schumaker and Burdett A. Loomis
2002, Chatam House Publishers: New York, NY

This book cites several reasons why the Electoral College has not been reformed, including the difficulty of creating supermajorities of Congress and states to pass and ratify constitutional amendments.

The authors also present how the Electoral College works, give historical background on the Electoral College, and detail how several reform proposals work, including the proportional allocation plan, the district allocation plan, the national bonus plan, and several popular vote plans.

In addition, the authors discuss broad lessons of Electoral College reform. Here, one poignant topic is mentioned—there are no compelling reasons *to* change the Electoral College, and there are no compelling reasons *not* to change the Electoral College. Throughout the history of the nation, they argue, the close elections that garnered thought of tinkering with the system would have likely been close elections in *any* electoral system.

In the final section of the book, several political scientists score each of the proposals and the current system and ultimately decide that the Electoral College works the way it is, but if a new system were chosen, they would recommend a direct popular vote.

BOOKS *(continued)*

Congressional Quarterly's Guide to U.S. Elections
2005, 2001, CQ Press (Congressional Quarterly, Inc.): Washington, D.C.

This monster of a resource was instrumental in citing popular vote returns.

Congressional Quarterly's Politics in America: 1990
1990, CQ Press (Congressional Quarterly, Inc.): Washington, D.C.

This book provided congressional district returns for 1988 and 1984.

Politics of Electoral College Reform
Lawrence D. Longley, Alan G. Braun
1972, Yale University Press: New Haven, CT

The authors of this book cite an historical and political perspective of the Electoral College. In addition, the authors discuss in detail the proportional allocation plan, the district allocation plan, and a direct popular vote and present arguments for and against each proposal.

The authors then launch a lengthy discussion on why a direct popular vote should be used to elect the president and why the Electoral College is no longer applicable and thus should be discarded. This book was published in 1972, but it could very well have been written in the months after the 2000 election given its intense displeasure with the Electoral College.

Voting for President
Wallace S. Sayre, Judith H. Parris
1970, The Brookings Institution: Washington, D.C.

The authors of this book discuss the historical background of the Electoral College and detail the existing Electoral College setup, the proportional allocation plan, the district allocation plan, and a direct popular vote, giving pros and cons of each. In the end, the authors advocate keeping the Electoral College.

WEBSITES

POLIDATA
http://www.polidata.us

This site provided congressional district returns from 2004-1992.

Debate about reforming the Electoral College is likely to continue for generations to come, especially if the nation endures another close election as it did in 2000. Substantive reform, though, is historically unlikely.

With any reform proposal come pros and cons of adoption. Each proposal brings the bad with the good, and this thesis shows how on the surface each proposal can be both good and bad. The proportional allocation plan, for instance, is more democratic in that Republican votes in New York and Democratic votes in Texas actually count for something, but it also spells an end to clean elections by fracturing the electoral vote and granting third-party candidates electoral votes. The national bonus plan may ensure that the national popular vote winner always wins in the Electoral College, but a close election can call that victory into question easily.

The good and the bad also come out in answering the question in the introduction. We have semi-answered whether or not we could have avoided the 2000 punch card nightmare in Florida if we used a proportional allocation plan. Because the results were Bush 263 and Gore 262, no candidate would have received an Electoral College majority of 270, so the House of Representatives would have been tasked with deciding the election. The mess in Florida might have been prevented, but there would have been a new and even more contentious mess in the House. If the district allocation method, the national bonus plan, or even a direct popular vote had been in place, then perhaps a definitive "yes" could answer the question regarding the Florida situation.

Whatever change may occur in the future, that change is likely to have profound impact on the future of our democracy. The results illustrated in this thesis probably would not have been the actual results if a specific proposal were enacted for a particular election, but applying a reform proposal on past presidential elections offers a glimpse into the world of "what if."

Now that that world has been cracked open, curiosity begs for more. New questions abound. How could any one of these proposals have affected the close

1960 race? How about the three-way race in 1912? 1876? And could Lincoln still have been elected president in 1860?

Regardless of the questions answered by this thesis or the new questions pondered, one thing about the Electoral College is certain: every four years will stir new debate on counting the vote.

Here's to a lively and productive discussion.

29 Appendices
30 Shell XML Example
31 Scenarios XML Example
38 Data Entry Process
40 Proportional Allocation Test
45 Excel Spreadsheet
48 Design Mockups
50 Development Sketches
53 Acknowledgments
54 Thesis Proposal

This is XML code that populates the project shell.

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Attached here is an example of the XML that populates the scenarios section. The code lists the states, the political parties, and the 2000 election.

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```

The data entry process was by far the most tedious part of this thesis. Using Congressional Quarterly's *Guide to U.S. Elections* for popular vote returns and various other sources for congressional district returns, all election data was hand-entered into a Microsoft Excel spreadsheet, state-by-state, candidate-by-candidate (please see the appendix for a spreadsheet example).

Excel has a feature allowing developers to export the spreadsheet data as an XML file, so this was the next step of the process. Unfortunately, though, the formatting of the Excel XML was horrendous. To translate the Excel XML into workable data for this thesis, a series of 11 find-and-replace actions were written in Adobe Dreamweaver.

Once each of the find-and-replace actions were executed, the nasty-looking Excel XML was cleaned up and compatible for use in this thesis.

```
<Row ss:AutoFitHeight="0">
    <Cell><Data ss:Type="String">OH</Data></Cell>
    <Cell ss:Index="3"><Data
    ↳ss:Type="Number">4.701998E6</Data></Cell>
    <Cell ss:Index="5"><Data ss:Type="Number">21.0</Data></Cell>
    <Cell ss:Index="7"><Data
    ↳ss:Type="Number">2.350363E6</Data></Cell>
    <Cell><Data ss:Type="Number">11.0</Data></Cell>
    <Cell ss:Index="10"><Data
    ↳ss:Type="Number">2.183628E6</Data></Cell>
    <Cell><Data ss:Type="Number">8.0</Data></Cell>
    <Cell ss:Index="13"><Data
    ↳ss:Type="Number">117799.0</Data></Cell>
    <Cell><Data ss:Type="Number">0.0</Data></Cell>
    <Cell ss:Index="16"><Data
    ↳ss:Type="Number">26721.0</Data></Cell>
    <Cell><Data ss:Type="Number">0.0</Data></Cell>
    <Cell ss:Index="19"><Data
    ↳ss:Type="Number">23484.0</Data></Cell>
    <Cell><Data ss:Type="String">OH</Data></Cell>
</Row>
```

XML code from Excel (state results from Ohio, 2000)

```
<OH popVote="4701998E6" eV="21">
    <candidate popVote="2350363E6" cD="11" />
    <candidate popVote="2183628E6" cD="8" />
    <candidate popVote="117799" cD="0" />
    <candidate popVote="26721" cD="0" />
</OH>
```

The same XML code formatted for this thesis

Attached here is a test conducted in Excel of the proportional allocation plan. Working through the actual data provided assistance in writing the function in Flash that computed these same results.

2000				George W. Bush - R					Al Gore - D				
	Pop	Evs	Diff	Pop	Percent	Proportional Evs	Rounded Evs	Difference	Pop	Percent	Proportional Evs	Rounded Evs	Difference
Alabama	1666272	9	1	941173	56.48375535	5.083537982	5	0.083537982	692611	41.56650295	3.740985265	4 ~~3~~	0.740985265
Alaska	285560	3	2	167398	58.62095532	1.758628659	2 ~~1~~	0.758628659	79004	27.66633982	0.829990195	1 ~~0~~	0.829990195
Arizona	1532016	8	1	781652	51.02113816	4.081691053	4	0.081691053	685341	44.73458502	3.578766801	4 ~~3~~	0.578766801
Arkansas	921781	6	1	472940	51.3071977	3.078431862	3	0.078431862	422768	45.86425626	2.751855376	3 ~~2~~	0.751855376
California	10965856	54	2	4567429	41.65136766	22.49173854	23 ~~22~~	0.491738538	5861203	53.44957111	28.8627684	29 ~~28~~	0.862768397
Colorado	1741368	8	1	883748	50.75021477	4.060017182	4	0.060017182	738227	42.39350901	3.391480721	3	0.391480721
Connecticut	1459525	8	1	561094	38.44360323	3.075488258	3	0.075488258	816015	55.90962813	4.472770251	5 ~~4~~	0.472770251
Delaware	327622	3	1	137288	41.90438982	1.257131694	1	0.257131694	180068	54.96212098	1.648863629	2 ~~1~~	0.648863629
Florida	5963110	25	1	2912790	48.84682657	12.21170664	12	0.211706643	2912253	48.8378212	12.2094553	12	0.209455301
Georgia	2596645	13	1	1419720	54.67516738	7.107771759	7	0.107771759	1116230	42.98739335	5.588361135	6 ~~5~~	0.588361135
Hawaii	367951	4	1	137845	37.4628687	1.498514748	2 ~~1~~	0.498514748	205286	55.79166791	2.231666716	2	0.231666716
Idaho	501621	4	1	336937	67.16963604	2.686785442	3 ~~2~~	0.686785442	138637	27.63779826	1.10551193	1	0.10551193
Illinois	4742123	22	1	2019421	42.58474527	9.36864396	9	0.36864396	2589026	54.59634851	12.01119667	12	0.011196673
Indiana	2199302	12	2	1245836	56.6468816	6.797625792	7 ~~6~~	0.797625792	901980	41.01210293	4.921452352	5 ~~4~~	0.921452352
Iowa	1315563	7	1	634373	48.22064774	3.375445342	3	0.375445342	638517	48.53564596	3.397495217	4 ~~3~~	0.397495217
Kansas	1072218	6	1	622332	58.04155498	3.482493299	4 ~~3~~	0.482493299	399276	37.2383228	2.234299368	2	0.234299368
Kentucky	1544187	8	1	872492	56.50170608	4.520136486	5 ~~4~~	0.520136486	638898	41.37439313	3.30995145	3	0.30995145
Louisiana	1765656	9	1	927871	52.55106317	4.729595686	5 ~~4~~	0.729595686	792344	44.87533245	4.038779921	4	0.038779921
Maine	651817	4	2	286616	43.97185099	1.75887404	2 ~~1~~	0.75887404	319951	49.08601647	1.963440659	2 ~~1~~	0.963440659
Maryland	2020480	10	1	813797	40.27740933	4.027740933	4	0.027740933	1140782	56.46093997	5.646093997	6 ~~5~~	0.646093997
Massachusetts	2702984	12	2	878502	32.50119128	3.900142953	4 ~~3~~	0.900142953	1616487	59.80379462	7.176455355	7	0.176455355
Michigan	4232711	18	1	1953139	46.14392525	8.305906545	8	0.305906545	2170418	51.2772547	9.229905845	9	0.229905845
Minnesota	2438685	10	2	1109659	45.50235065	4.550235065	5 ~~4~~	0.550235065	1168266	47.90557206	4.790557206	5 ~~4~~	0.790557206
Mississippi	994184	7	1	572844	57.6195151	4.033366057	4	0.033366057	404614	40.69810015	2.848867011	3 ~~2~~	0.848867011
Missouri	2359892	11	1	1189924	50.42281596	5.546509756	6 ~~5~~	0.546509756	1111138	47.08427335	5.179270068	5	0.179270068
Montana	410997	3	1	240178	58.43789614	1.753136884	2 ~~1~~	0.753136884	137126	33.3642338	1.000927014	1	0.000927014
Nebraska	697019	5	1	433862	62.24536203	3.112268102	3	0.112268102	231780	33.25303901	1.662651951	2 ~~1~~	0.662651951
Nevada	608970	4	2	301575	49.52214395	1.980885758	2 ~~1~~	0.980885758	279978	45.97566383	1.839026553	2 ~~1~~	0.839026553
New Hampshire	569081	4	2	273559	48.07030985	1.922812394	2 ~~1~~	0.922812394	266348	46.80317916	1.872127166	2 ~~1~~	0.872127166
New Jersey	3187226	15	1	1284173	40.29124386	6.043686579	6	0.043686579	1788850	56.12560892	8.418841337	8	0.418841337
New Mexico	598605	5	1	286417	47.8474119	2.392370595	2	0.392370595	286783	47.90855405	2.395427703	3 ~~2~~	0.395427703
New York	6821999	33	2	2403374	35.22976183	11.62582141	12 ~~11~~	0.625821405	4107697	60.21251249	19.87012912	20 ~~19~~	0.870129122
North Carolina	2911262	14	1	1631163	56.02941267	7.844117774	8 ~~7~~	0.844117774	1257692	43.20092111	6.048128956	6	0.048128956
North Dakota	288256	3	2	174852	60.65858126	1.819757438	2 ~~1~~	0.819757438	95284	33.0553397	0.991660191	1 ~~0~~	0.991660191
Ohio	4701998	21	2	2350363	49.98647384	10.49715951	10	0.497159505	2183628	46.44042809	9.752489899	10 ~~9~~	0.752489899
Oklahoma	1234229	8	1	744337	60.30785211	4.824628169	5 ~~4~~	0.824628169	474276	38.42690457	3.074152366	3	0.074152366
Oregon	1533968	7	1	713577	46.51837587	3.256286311	3	0.256286311	720342	46.95938898	3.287157229	3	0.287157229
Pennsylvania	4913119	23	2	2281127	46.42930489	10.67874012	11 ~~10~~	0.678740124	2485967	50.59855053	11.63766662	12 ~~11~~	0.637666623
Rhode Island	403047	4	1	130555	32.39200391	1.295680156	1	0.295680156	249508	61.90543535	2.476217414	3 ~~2~~	0.476217414
South Carolina	1382717	8	1	785937	56.84004753	4.547203802	5 ~~4~~	0.547203802	565561	40.90215134	3.272172108	3	0.272172108
South Dakota	316269	3	1	190700	60.29677268	1.808903181	2 ~~1~~	0.808903181	118804	37.56422539	1.126926762	1	0.126926762
Tennessee	2076181	11	1	1061949	51.14915318	5.62640685	6 ~~5~~	0.62640685	981720	47.28489472	5.201338419	5	0.201338419
Texas	6407637	32	2	3799639	59.29859947	18.97555183	19 ~~18~~	0.97555183	2433746	37.98195809	12.15422659	12	0.154226589
Utah	770754	5	1	515096	66.83014295	3.341507148	4 ~~3~~	0.341507148	203053	26.34472218	1.317236109	1	0.317236109
Vermont	294308	3	1	119775	40.6971608	1.220914824	1	0.220914824	149022	50.63470922	1.519041276	2 ~~1~~	0.519041276
Virginia	2739447	13	2	1437490	52.47372919	6.821584794	7 ~~6~~	0.821584794	1217290	44.43561054	5.776629371	6 ~~5~~	0.776629371

Washington	2487433	11	2	1108864	44.57864795	4.903651274	5 ~~4~~	0.903651274	1247652	50.15821532	5.517403685	6 ~~5~~	0.517403685
West Virginia	648124	5	1	336475	51.91521993	2.595760996	3 ~~2~~	0.595760996	295497	45.59266437	2.279633218	2	0.279633218
Wisconsin	2598607	11	1	1237279	47.61316351	5.237447987	5	0.237447987	1242987	47.83281966	5.261610163	5	0.261610163
Wyoming	218351	3	1	147947	67.75650215	2.032695064	2	0.032695064	60481	27.69898008	0.830969402	1 ~~0~~	0.830969402
DC	201894	3	1	18073	8.951727144	0.268551814	0	0.268551814	171923	85.15508138	2.554652441	3 ~~2~~	0.554652441
US	105396627	538	66	50455156	47.87169897	257.5497404	235	22.54974045	50992335	48.38137277	260.2917855	234	26.29178552

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Ralph Nader - Green						Patrick J. Buchanan - Reform			Other		
Pop	Percent	Proportional Evs	Rounded Evs	Difference	MAX(Bush, Gore, Nader Diff)						
18323	1.099640395	0.098967636	0	0.098967636	0.740985265	6351	0.3811503	0.0343035	7814	0.468951048	0.042205594
28747	10.06688612	0.302006584	0	0.302006584	0.829990195	5192	1.8181818	0.0545455	5219	1.827636924	0.054829108
45645	2.979407526	0.238352602	0	0.238352602	0.578766801	12373	0.8076286	0.0646103	7005	0.457240655	0.036579252
13421	1.455985749	0.087359145	0	0.087359145	0.751855376	7358	0.7982373	0.0478942	5294	0.574322968	0.034459378
418707	3.818279211	2.061870774	2	0.061870774	0.862768397	44987	0.4102461	0.2215329	75530	0.688774319	0.371938132
91434	5.25069945	0.420055956	0	0.420055956	0.420055956	10465	0.6009643	0.0480771	17494	1.004612466	0.080368997
64452	4.415957246	0.35327658	0	0.35327658	0.472770251	473	0.0324078	0.0025926	13233	0.90666484	0.072533187
8307	2.535544011	0.07606632	0	0.07606632	0.648863629	777	0.2371636	0.0071149	1182	0.360781632	0.010823449
97488	1.634851613	0.408712903	0	0.408712903	0.408712903	17484	0.2932027	0.0733007	23095	0.387297903	0.096824476
13273	0.511159592	0.066450747	0	0.066450747	0.588361135	10926	0.4207737	0.0547006	36496	1.405505951	0.182715774
21623	5.876597699	0.235063908	0	0.235063908	0.498514748	1071	0.2910714	0.0116429	2126	0.577794326	0.023111773
12292	2.450455623	0.098018225	0	0.098018225	0.686785442	7615	1.5180784	0.0607231	6140	1.224031689	0.048961268
103759	2.188028442	0.481366257	0	0.481366257	0.481366257	16106	0.3396369	0.0747201	13811	0.291240864	0.06407299
18531	0.842585511	0.101110261	0	0.101110261	0.921452352	16959	0.7711083	0.092533	15996	0.727321668	0.0872786
29374	2.232808311	0.156296582	0	0.156296582	0.397495217	5731	0.435631	0.0304942	7568	0.575267015	0.040268691
36086	3.365546932	0.201932816	0	0.201932816	0.482493299	7370	0.6873602	0.0412416	7154	0.667215063	0.040032904
23192	1.501890639	0.120151251	0	0.120151251	0.520136486	4173	0.2702393	0.0216191	5432	0.351770867	0.028141669
20473	1.159512385	0.104356115	0	0.104356115	0.729595686	14356	0.8130689	0.0731762	10612	0.601023076	0.054092077
37127	5.695923856	0.227836954	0	0.227836954	0.963440659	4443	0.681633	0.0272653	3680	0.56457564	0.022583026
53768	2.661149826	0.266114983	0	0.266114983	0.646093997	4248	0.2102471	0.0210247	7885	0.390253801	0.03902538
173564	6.421199682	0.770543962	0	0.770543962	0.900142953	11149	0.4124701	0.0494964	23282	0.861344351	0.103361322
84165	1.988441923	0.357919546	0	0.357919546	0.357919546	2061	0.0486922	0.0087646	22928	0.541685931	0.097503468
126696	5.19525892	0.519525892	0	0.519525892	0.790557206	22166	0.9089325	0.0908932	11898	0.487885889	0.048788589
8122	0.816951389	0.057186597	0	0.057186597	0.848867011	2265	0.227825	0.0159478	6339	0.63760833	0.044632583
38515	1.632066213	0.179527283	0	0.179527283	0.546509756	9818	0.416036	0.045764	10497	0.444808491	0.048928934
24437	5.945785492	0.178373565	0	0.178373565	0.753136884	5697	1.3861415	0.0415842	3559	0.86594306	0.025978292
24540	3.52070747	0.176035373	0	0.176035373	0.662651951	3646	0.5230847	0.0261542	3191	0.457806746	0.022890337
15008	2.46448922	0.098579569	0	0.098579569	0.980885758	4747	0.7795129	0.0311805	7662	1.258190059	0.050327602
22198	3.900674948	0.156026998	0	0.156026998	0.922812394	2615	0.4595128	0.0183805	4361	0.766323247	0.03065293
94554	2.966655016	0.444998252	0	0.444998252	0.444998252	6989	0.2192816	0.0328922	12660	0.397210615	0.059581592
21251	3.550087286	0.177504364	0	0.177504364	0.395427703	1392	0.2325407	0.011627	2762	0.461406103	0.023070305
244030	3.577104013	1.180444324	1	0.180444324	0.870129122	31599	0.4631927	0.1528536	35299	0.517428982	0.170751564
0	0	0	0	0	0.844117774	8874	0.3048163	0.0426743	13533	0.464849952	0.065078993
9486	3.290824822	0.098724745	0	0.098724745	0.991660191	7288	2.5283082	0.0758492	1346	0.466946048	0.014008381
117799	2.505296685	0.526112304	0	0.526112304	0.752489899	26721	0.5682903	0.119341	23484	0.499447256	0.104883924
0	0	0	0	0	0.824628169	9014	0.7303345	0.0584268	6602	0.534908838	0.042792707
77357	5.042934403	0.353005408	0	0.353005408	0.353005408	7063	0.4604399	0.0322308	15629	1.018860889	0.071320262
103392	2.10440659	0.484013516	0	0.484013516	0.678740124	16023	0.3261268	0.0750092	26610	0.541611144	0.124570563
25052	6.215652269	0.248626091	0	0.248626091	0.476217414	2273	0.5639541	0.0225582	1659	0.411614526	0.016464581
20200	1.460891853	0.116871348	0	0.116871348	0.547203802	3519	0.2544989	0.0203599	7500	0.542410341	0.043392827
0	0	0	0	0	0.808903181	3322	1.0503717	0.0315112	3443	1.088630248	0.032658907
19781	0.952758936	0.104803483	0	0.104803483	0.62640685	4250	0.2047028	0.0225173	8481	0.408490397	0.044933944
137994	2.153586416	0.689147653	0	0.689147653	0.97555183	12394	0.1934254	0.0618961	23864	0.372430586	0.119177787
35850	4.651289516	0.232564476	0	0.232564476	0.341507148	9319	1.2090758	0.0604538	7436	0.964769563	0.048238478
20374	6.922679642	0.207680389	0	0.207680389	0.519041276	2192	0.744798	0.0223439	2945	1.000652378	0.030019571
59398	2.168247825	0.281872217	0	0.281872217	0.821584794	5455	0.1991278	0.0258866	19814	0.723284663	0.094027006

103002	4.140895453	0.4554985	0	0.4554985	0.903651274	7171	0.2882892	0.0317118	20744	0.83395211	0.091734732
10680	1.647832822	0.082391641	0	0.082391641	0.595760996	3169	0.4889496	0.0244475	2303	0.355333239	0.017766662
94070	3.620016416	0.398201806	1 ~~0~~	0.398201806	0.398201806	11446	0.4404668	0.0484513	12825	0.493533651	0.054288702
4625	2.118149218	0.063544477	0	0.063544477	0.830969402	2724	1.2475326	0.037426	2574	1.178835911	0.035365077
10576	5.238392424	0.157151773	0	0.157151773	0.554652441	0	0	0	1322	0.654799053	0.019643972
2882738	2.73513307	14.71501592	3	11.71501592	26.29178552	449077	0.4260829	2.292326	617321	0.585712292	3.151132133

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Attached here is a printout of the Excel spreadsheet for the 2000 election.

2000																			
		Total				George W. Bush - R			Al Gore - D			Ralph Nader - Green			Patrick J. Buchanan - Reform			Other	
AL		1666272		9		941173	6		692611	1		18323	0		6351	0		7814	AL
AK		285560		3		167398	1		79004	0		28747	0		5192	0		5219	AK
AZ		1532016		8		781652	5		685341	1		45645	0		12373	0		7005	AZ
AR		921781		6		472940	2		422768	2		13421	0		7358	0		5294	AR
CA		10965856		54		4567429	19		5861203	33		418707	0		44987	0		75530	CA
CO		1741368		8		883748	4		738227	2		91434	0		10465	0		17494	CO
CT		1459525		8		561094	0		816015	6		64452	0		473	0		13233	CT
DE		327622		3		137288	0		180068	1		8307	0		777	0		1182	DE
FL		5963110		25		2912790	13		2912253	10		97488	0		17484	0		23095	FL
GA		2596645		13		1419720	9		1116230	2		13273	0		10926	0		36496	GA
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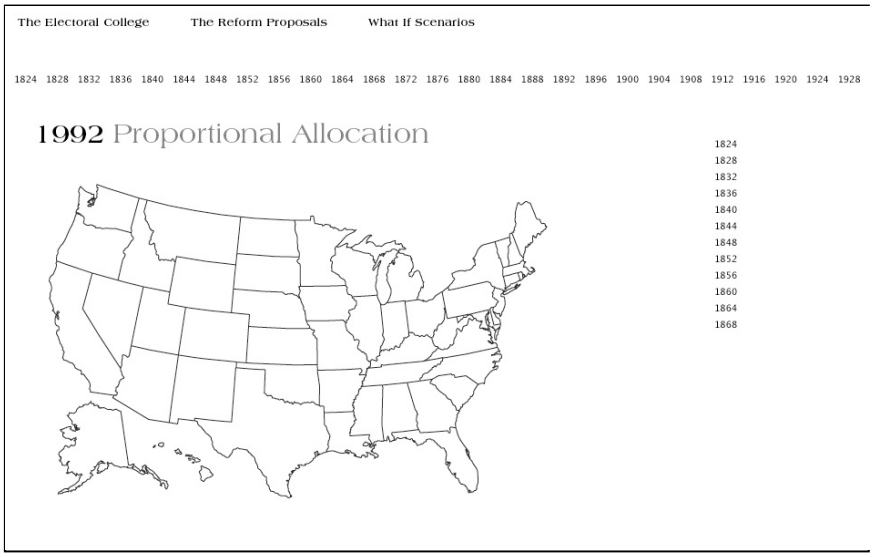
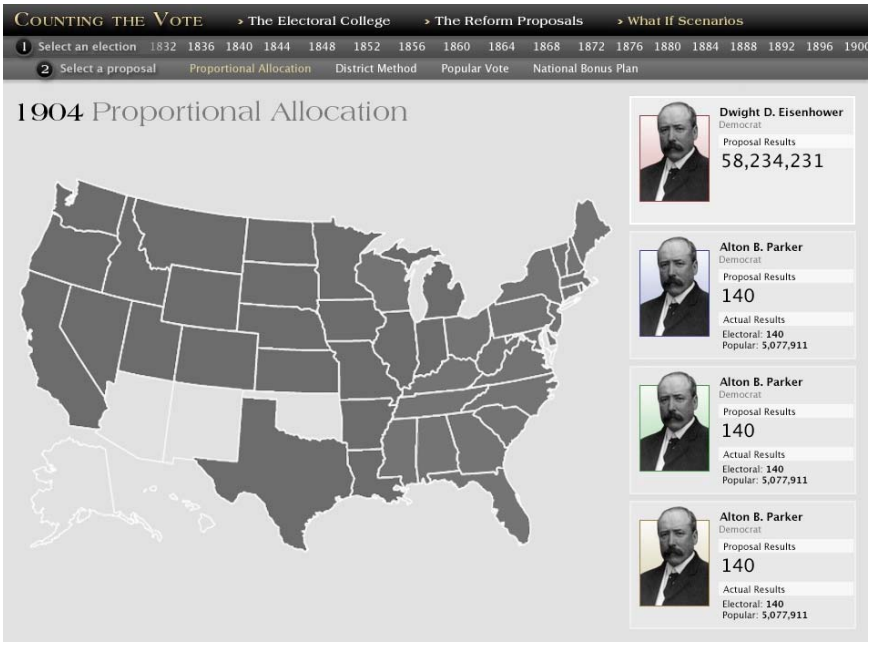
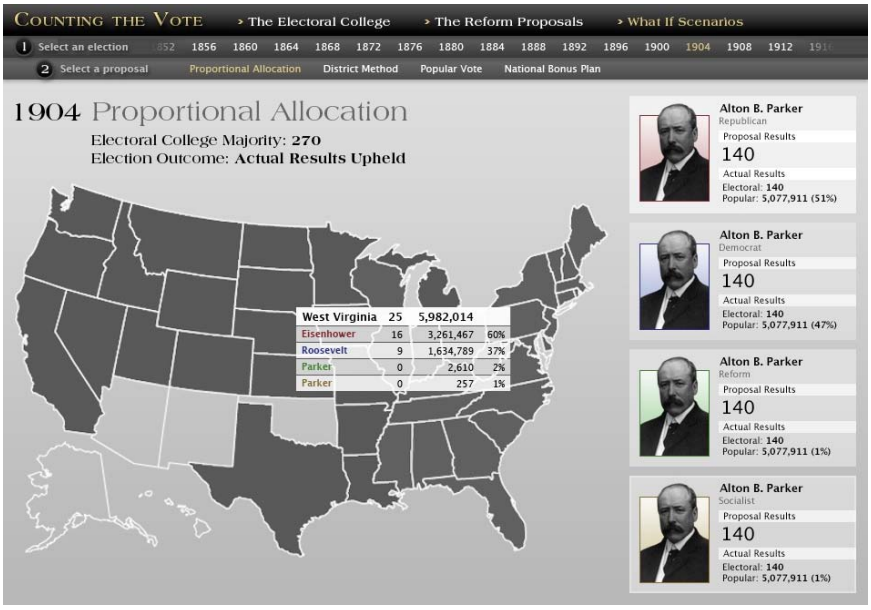


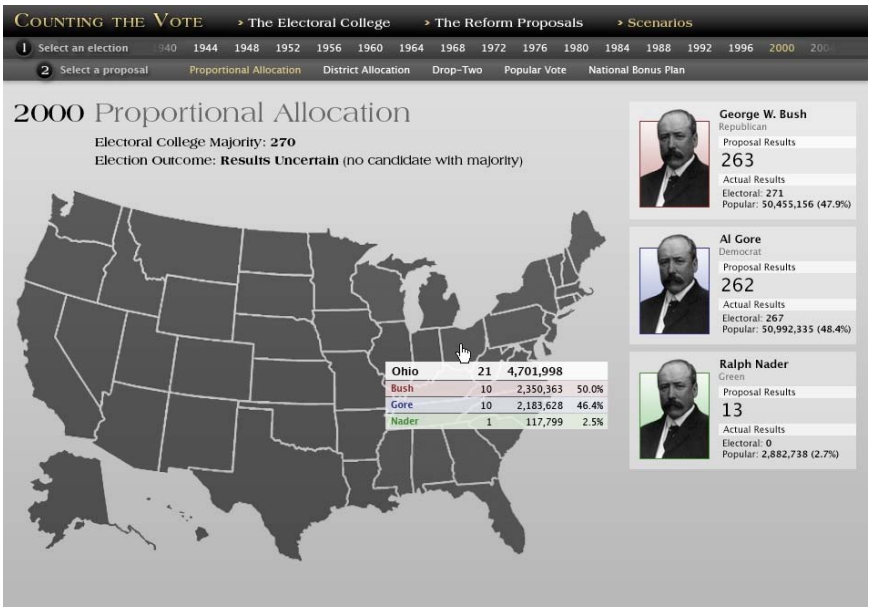
Early layout sketch/test



First full mockup

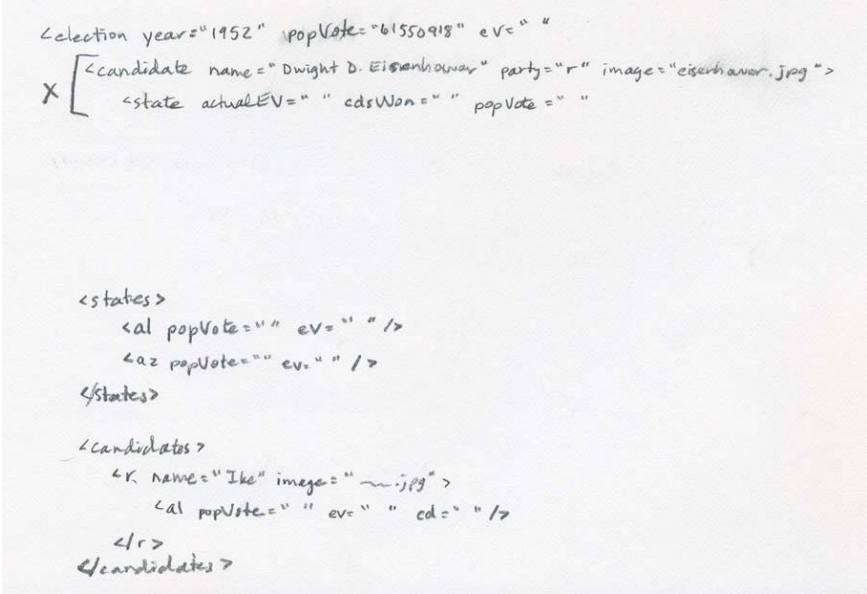


Decreased font size in navigation, state results box added, background gradient added

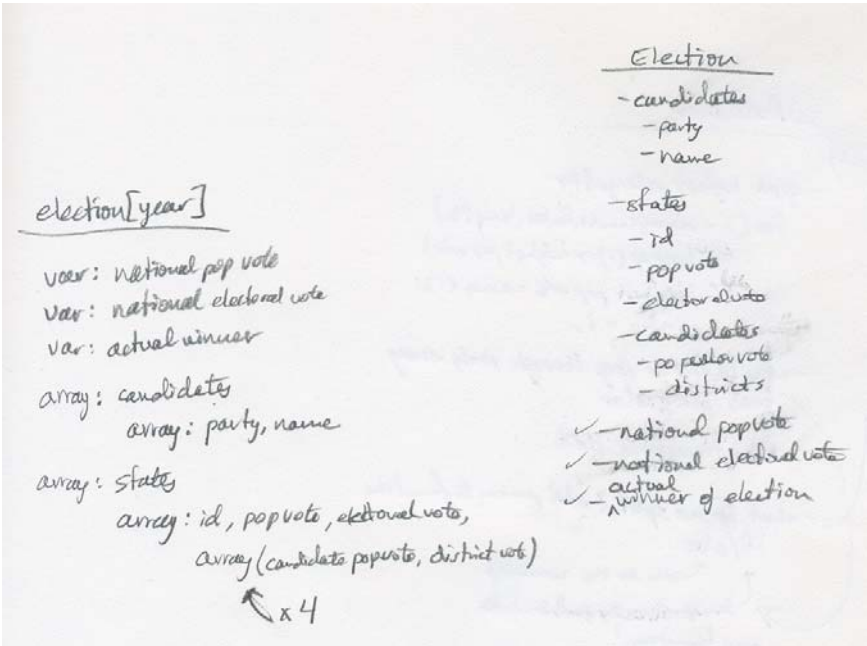


State and candidate result box outlines removed, state results box colorized

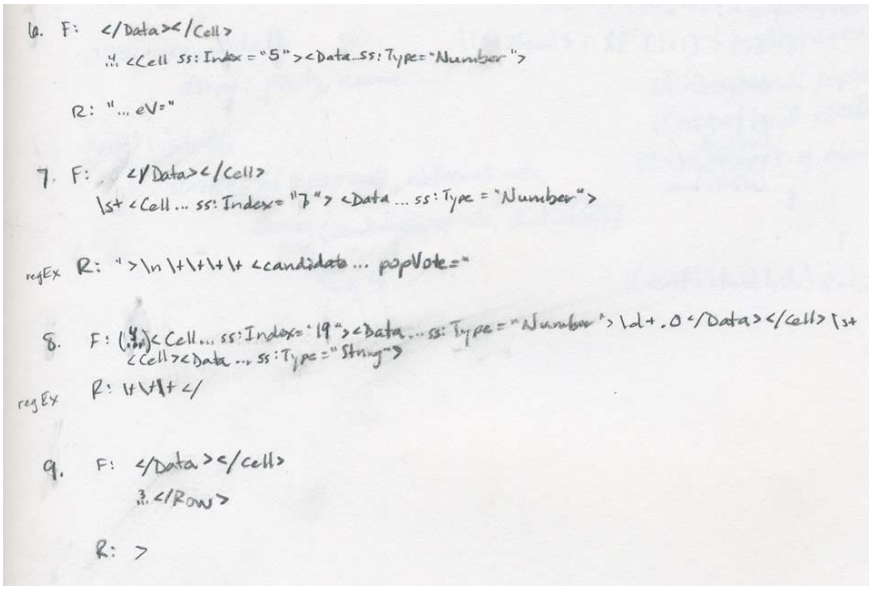
These are sketches made during the development and planning process.



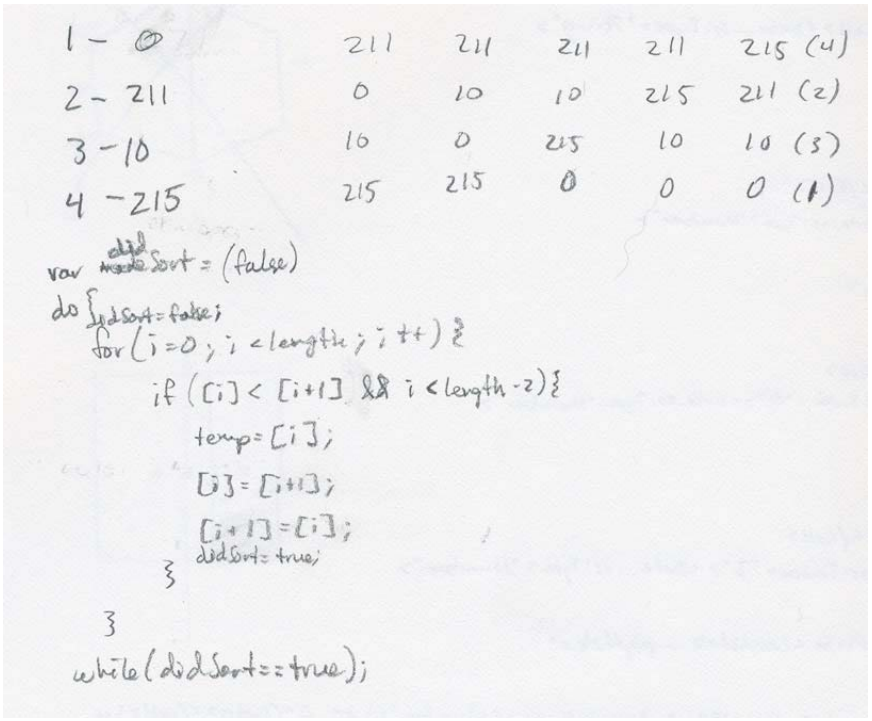
Deciding how to format the election XML



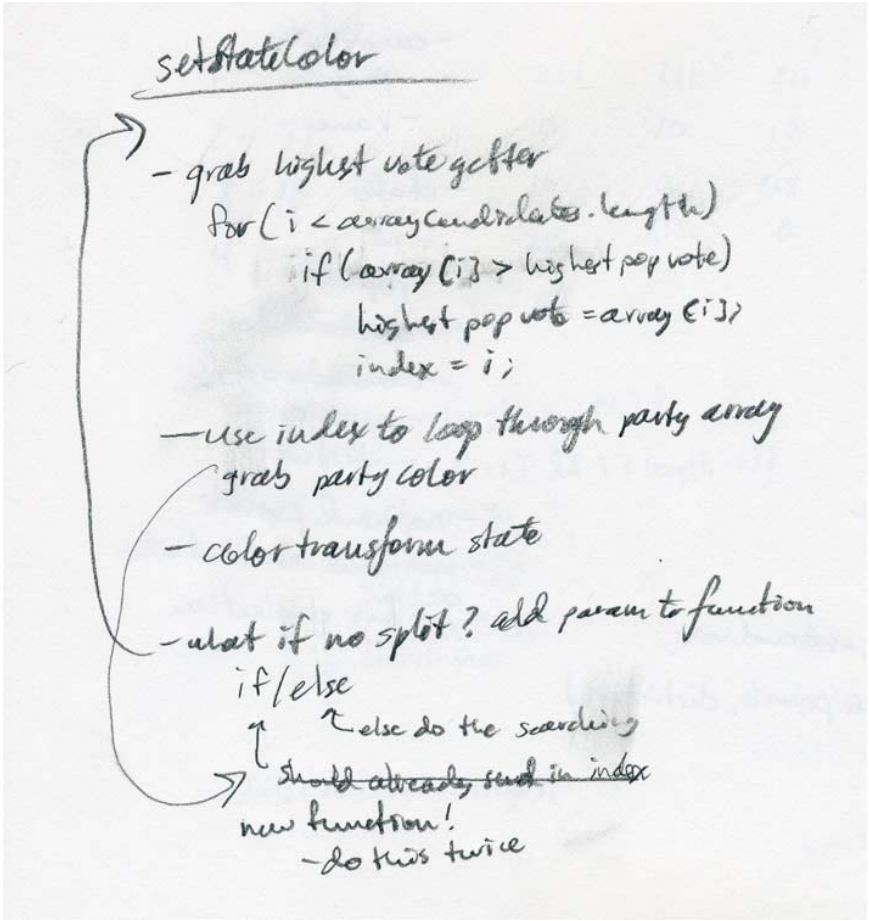
Mapping out the election object for Flash



Part of the Dreamweaver find and replace routine to convert Excel XML to workable XML



Working out the sort routine for national and state results



Working out the routine that sets state colors

Family and Friends

Your love and support over the years have meant so much to me. Thank you for everything.

Chris Jackson

Thank you for your continued mentoring as I have worked towards my MFA. Your ideas and support throughout the program have been greatly appreciated.

Dr. Alex Bitterman

Thank you for being such a wonderful mentor and friend. I cannot thank you enough.

Dr. Sean Sutton

Your enthusiasm for this project has been a welcomed inspiration and motivation for me.

Thank you to:

Dr. James Fleming, Harry Stiokas, Larry Richardson, Marla Schweppe, Dan Deluna, Kari Horowicz, Jennifer Freer, Linda Coppola, Dr. Harold Stanley, Dr. William Cunion, Bill Klingensmith.

Attached here is the original proposal for this thesis.

THESIS PROPOSAL FOR MASTER OF FINE ARTS DEGREE

Rochester Institute of Technology
College of Imaging Arts and Sciences
School of Design
Computer Graphics Design

TITLE Counting the Vote – An Interactive Study of Electoral College Reform

SUBMITTED BY Joe Hribar

DATE 18 October 2006

THESIS COMMITTEE APPROVAL

Chris Jackson, Associate Professor, Computer Graphics Design

Chris Jackson 10/12/06
Signature of Committee Chair Date

Jason Arena, Assistant Professor, New Media Design & Imaging

10/12/06
Signature of Committee Member Date

Sean Sutton, Assistant Professor, Political Science

S Sutton 10/12/06
Signature of Committee Member Date

Your signature on this page indicates your commitment to working with this student in their effort to complete this thesis project for the period indicated on the timeline.

3 Abstract

4 Thesis Description

5 Technical Considerations

6 Audience

8 Survey of Literature

11 Timeline

12 Marketing Plan

13 Appendix A

With each presidential election comes talk of a fundamental and significant change to our democracy. Every four years brings about discussion between political pundits and casual conversation between office coworkers. All this talk is about reforming, or in some cases dismantling, the Electoral College.

Over the past several decades, numerous proposals to reform the Electoral College have been advanced. Adopting any one of these proposals would certainly have far-reaching effects on our future, but what about our past? What would have happened in 1960, for instance, if instead of the winner-take-all method of assigning electoral votes, a district method were in place? Would Kennedy still have won? Or how about in 2000, if a proportional method were used, could the mess in Florida have been prevented?

This thesis seeks to answer those questions. Divided into three main sections, this thesis explains what the Electoral College is and how it works, details several proposals to reform the system, and allows users to explore how a reform proposal might have changed the outcome of a past presidential election.

The interactive portion of this thesis will be divided into three main sections and three supplemental sections.

In the first main section, a history of the Electoral College will give users the necessary background information on why the framers of the Constitution chose this system to elect the president. Through text, informative graphics, and any necessary animations or interactions, this section will also discuss how the system works today and will present arguments for and against the current system.

In the second main section, several proposals will be explained. As in the previous section, the proposals will be illustrated with text, graphics, and animations or interactions where appropriate. The proposals will include a direct popular vote, a proportional electoral vote, a Congressional district method, and abolishing non-proportional electors.

The third main section will contain the signature interactive piece. Users will be able to select a past presidential election and apply one of the proposals discussed in the previous section to reform the system. A color-coded map of the United States will display the results of the user's selection. Certain textual election information will need to be displayed, such as the actual results of the election, the difference the proposal might have made on the election, and the candidates involved. Other possible information might include state voting history and candidate or election information.

Supplementary sections will include a section about the project, which will contain information about the project as well as appropriate credits and acknowledgments; a contact section; and links to related websites and resources.

The interactive portion of this thesis will be developed using Adobe Flash 8.0 Professional, and the .swf file will be published for Flash Player 8. This decision was made to take advantage of the BitmapData class.

All data, including large bodies of text and election result numbers, will be externally loaded through XML. This will allow easy changing of information and data.

In addition to the data, the colors representing the various political parties will be loaded externally. During the past several presidential elections, the news media have widely adopted blue to represent the Democratic Party and red to represent the Republican Party. Prior to this adoption, however, the color scheme was reversed. Having the colors load externally will allow an easy update in the future, should one be necessary.

Once this thesis has been completed, the interactive portion will be capable of being distributed on the Web and on CD.

DESCRIPTION

The primary target audience for this thesis will be individuals or groups with an interest in politics, the Electoral College, and the American Presidency. It is not meant for this thesis to be an absolute teaching tool of the inner workings of the Electoral College and electing a president; rather, it is meant to introduce users to the system and the proposals for reform.

BREAKDOWN

The target audience is as follows:

Age	Late teens and higher
Gender, ethnicity	All
Language	English
Education	High school and higher
Occupation	Students, educators, political scientists, others
Interests	Politics, the Electoral College, the American Presidency
Technical knowledge	How to operate a computer and mouse, how to navigate through standard websites and interactive Flash pieces
Technical requirements	Adobe Flash Player 8, internet browser

SCENARIOS

Alex is a thirty-four-year-old political science professor at a small liberal arts college in Ohio. Each year, he teaches a course on the American Presidency and assigns his students a paper on the Electoral College. In the paper, students must detail the political implications of reforming the Electoral College. This thesis will aid his students in understanding how past presidential elections might have reshaped the political landscape and American history.

Maria is an eighteen-year-old student at a high school in Arizona. Her career plans include going to college to study mechanical engineering. Throughout her life, she has had a keen interest in politics and specifically the presidency. This thesis will provide Maria a means to exercise her political curiosity.

Scenarios continued on next page

SCENARIOS *(continued)* James is a fifty-two-year-old staffer for a Congresswoman from Massachusetts. The Congresswoman is interested in introducing a bill on the floor of the House of Representatives to reform the Electoral College, and James has been assigned the task of leading a team of staffers to research the issue. This thesis will assist James in his research by illustrating the possibilities of reforming the electoral system.

BOOKS

After the People Vote – A Guide to the Electoral College
Edited by John C. Fortier
2004, AEI Press

This book explains how the Electoral College works, gives a history of disputed elections, and cites arguments for and against the Electoral College.

Choosing a President – The Electoral College and Beyond
Edited by Paul D. Schumaker, Burdett A. Loomis
2002, Chatham House Publishers

This book examines the Electoral College, several reform proposals, and ramifications of changing the system, and gives an historical background.

Direct Election of the President
Harvey Zeidenstein
1973, Lexington Books

This book explains the difference between the Electoral College and a direct election, gives arguments against both, and recommends a direct vote system.

The Electoral College
Lucius Wilmerding, Jr.
1958, Rutgers University Press

This book studies the history of the Electoral College and details several reforms (general ticket plurality, national plebiscite, proportional, single-member district).

The Electoral College and the Constitution – The Case for Preserving Federalism
Robert M. Hardaway
1994, Praeger Publishers

This book gives a "heavy historical perspective and analysis of the principles of federalism" as well as citing "historical and constitutional origins of the Electoral College," how it works, how it evolved, and how it has affected the outcomes of presidential elections.

Survey of Literature continued on next page

BOOKS *(continued)*

The Electoral College Primer 2000
Lawrence D. Longley, Neal R. Peirce
1999, Yale University Press

This book studies the history of the Electoral College, seven presidential elections that had an Electoral College crisis potential, how it works; and shows the difference between popular votes and electoral votes, and how 2000 illustrated "distortions and imperfections of this fatally-flawed means of determining the American President."

The People's President – The Electoral College in American History and the Direct-Vote Alternative
Neal R. Peirce
1968, Simon & Schuster

This book gives a "history of the Electoral College in American history and as a statement of the major concerns" for consideration when electing a president.

Politics of Electoral College Reform
Lawrence D. Longley, Alan G. Braun
1972, Yale University Press

This book studies the history and politics of the Electoral College, details several reform plans (automatic, proportional, district plan, direct vote, others), and advocates the direct vote.

Voting for President – The Electoral College and the American Political System
Wallace S. Sayre, Judith H. Parris
1970, The Brookings Institution

This book gives a history of the Electoral College and details the existing system, a direct vote plan, an automatic plan, a district plan, and a proportional plan.

Survey of Literature continued on next page

REPORTS

The Electoral College – An Overview and Analysis of Reform Proposals
L. Paige Whitaker, Thomas H. Neale
2004, Congressional Research Service, Library of Congress

This report is a Congressionally-prepared digest-form report of Electoral College history, criticisms and controversies, and reform proposals.

INTERNET RESOURCES

270 to Win – An Interactive Map and History of the Electoral College
http://www.270towin.com

This site uses an interactive map to show past Electoral College results for every presidential election and to allows users to create a 2008 Electoral College scenario by choosing whether the state turns blue or red. The site also shows how each state has voted since 1968 and graphs how many electoral votes each state has had since the state joined the Union.

Dave Leip's Atlas of U.S. Presidential Elections
http://www.uselectionatlas.org

This site archives presidential election results.

The New York Times 2004 Election Guide
http://www.nytimes/com/packages/html/politics/ ...
2004_ELECTIONGUIDE_GRAPHIC/

This site is an interactive map that allows users to create electoral math scenarios with a presidential calculator. Users can select whether the electoral votes of a state get cast for Kerry or Bush.

POLIDATA
http://www.polidata.us

This site archives presidential election results, from the nation-wide popular vote to the vote of each Congressional District since 1992.

	Start Date	End Date	Days
Proposal	20 Sep	17 Oct	28
Proposal defense	18 Oct	18 Oct	1
Documentation	4 Dec	24 May	165
Research & content gathering	4 Dec	11 Mar	91
Information architecture	5 Feb	25 Feb	21
Visual design	19 Feb	18 Mar	28
Programming	19 Mar	22 Apr	35
Thesis defense	11 Apr	11 Apr	1
Testing/feedback	23 Apr	29 Apr	7
Updates/review	30 Apr	24 May	25

Please see Appendix A for a Gantt chart.

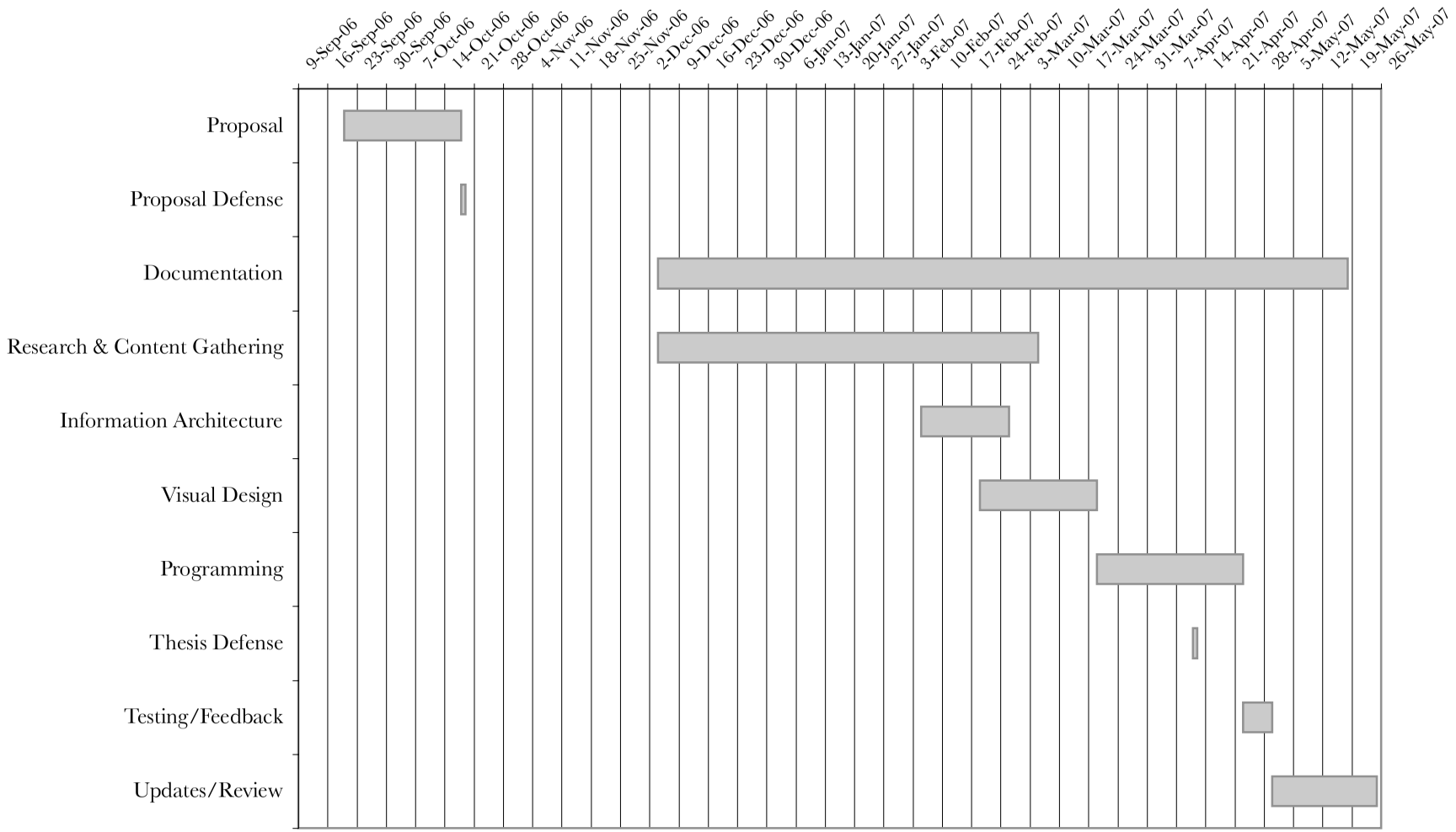
TECHNICAL Given the interactive and dynamic nature of this thesis, several conferences and competitions would be an ideal place to market and discuss this thesis, such as:

- Flashforward
- FITC
- Adobe Design Achievement Awards
- Communication Arts
- South by Southwest

POLITICAL On the political side, possible marketing can include:

- The American Political Science Association
- Politics1.com
- Politicalwire.com

Gantt chart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Proposal Defense
Documentation
Research & Content Gathering
Information Architecture
Visual Design
Programming
Thesis Defense
Testing/Feedback
Updates/Review